

**IMPACT OF iTax ON VAT REVENUE COLLECTION IN  
KRA: A CASE OF MACHAKOS STATION**

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TECHNOLOGY**

**2018**

## **DECLARATION**

I, .....do hereby declare that this research project is my original work and has not been submitted for a post graduate diploma in any other university.

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## **ABSTRACT**

The objective of this research study was to establish the impact of the iTax system on VAT revenue collection at KRA Machakos station. The objective of the study was answered using three research questions which revolved around online filing, online payment and online monitoring and how each is affected by the iTax system in order to enhance VAT revenue collection. The study was based on three theories that provide the theoretical background of this research study. The theory includes; technology acceptance model (TAM), Theory of Planned Behaviour (TPB) and theory of reasoned action (TRA). This was followed by the review of existing empirical literature for each variable and a conceptual framework of the same. In order to come up with the research gaps, critique of existing literature as advanced by different scholars was carried out and discussed at length. A summary was then drawn from the literature review

The research problem was solved using descriptive study design. The target population for the study was DTD staff at Machakos station. The study targeted 78 employees. The Fishers model was used to select 65 respondents for the study. A four-point Likert scale structured questionnaire which covered all variables of the study was used to collect primary data. A pilot test was conducted to assess validity of the research instruments whereas Cronbach's coefficient alpha was used to determine reliability of the research instruments. Data obtained was subjected to quantitative methods of data analysis using SPSS (version 25). Results obtained were presented using tables and graphs for ease of understanding and interpretation. In addition, both correlation and regression analyses were done and summaries presented.

Both descriptive and inferential statistics were used to analyze the data. Statistical significance of relationships among selected variables was determined using multiple regression analysis. The study established that online filing, online payment and online monitoring have a significant contribution on VAT revenue collection at Machakos station. The study concluded that iTax system has an impact on VAT revenue collection in Machakos station though KRA DTD officers at Machakos station feel that taxpayers are still faced with system challenges

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## **DEDICATION**

This project is dedicated to my lovely wife – Jane Migwambo, my daughter – Daniella Muga Okello and my son – Brayden Liam Okello for their invaluable support and prayers offered

## **DEFINITION OF TERMS**

### **Internet**

The Internet is the global system of interconnected computer networks that use the Internet protocol suite (TCP/IP) to link devices worldwide. It is a network of networks that consists of private, public, academic, business, and government networks of local to global scope, linked by a broad array of electronic, wireless, and optical networking technologies (Klein, Hans, 2004).

### **Taxation**

A means by which governments finance their expenditure by imposing charges on citizens and corporate entities. Taxation is the only known practical manner for collecting resources in order to finance public expenditure for goods and services consumed by any citizenry (Charles E. McLure, 2015)

### **iTax**

iTax is a web-based system developed to simplify revenue collection in Kenya by allowing taxpayers to simply update their tax registration details, file tax returns using Microsoft Excel or Open Office, register all tax payments and make status enquiries with real-time monitoring of their ledger/account. (KRA, 2015)

### **Revenue**

The income accruing from taxation to a government during a specified period of time, usually a year (Collins Dictionary, 2018)

## **LIST OF ABBREVIATIONS**

<b>EAC</b>	East African Community
<b>IRB</b>	Internal Revenue Board
<b>IRS</b>	Internal Revenue Service
<b>IT</b>	Information Technology
<b>ITMS</b>	Integrated Tax Management System
<b>KRA</b>	Kenya Revenue Authority
<b>OECD</b>	Organization for Economic Co-operation and Development
<b>PIN</b>	Personal Identification Number
<b>PSC</b>	Public Service Commission
<b>SPSS</b>	Statistical Program for Social Sciences
<b>UK</b>	United Kingdom
<b>VAT</b>	Value Added Tax
<b>WTO</b>	World Trade Organization

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# CHAPTER ONE: INTRODUCTION

## 1.1 Background of the Study

Taxation is essential for sustainable economic development, and tax administration is a basic function of a successful nation or country. Taxation also helps make a government accountable to its citizens. When governments spend taxpayers' money, they are more accountable to make budget decisions transparent and accessible. (Kiringa & Jagongo, 2017). Globally, the tax environment is changing rapidly. Tax authorities are being challenged to maintain a modernized and responsive tax administration system. Tax agencies are leveraging on the electronic tax systems to achieve greater tax administrative and compliance efficiency (Kipkemoi, 2015). It is for this reason that many countries in the world have adopted online tax filing and payment to increase revenue collection. As to whether online tax filing and payment have contributed to the increase of revenue collection is matter that needed to be investigated. The study therefore aims to assess the impact of electronic tax services on VAT revenue collection.

Electronic tax filing was first coined in United States, where the Internal Revenue Service's (IRS) began offering e-filing for tax refunds only. This has now grown to the level that currently approximately one out of every five individual taxpayers are now filing electronically. This however, has been as a result of numerous enhancements and features being added to the program over the years. Online tax filing (Electronic tax filing or e-filing) is a process where tax documents or tax returns are submitted through the internet; usually without the need to submit any paper return. The e-filing system encompasses the use of internet technology, the Worldwide Web and Software for a wide range of tax administration and compliance purposes (Bharti Motwani, 2015)

Online tax filing and payment systems are currently adopted by governments across the globe with increasing frequency to aid in their tax revenue collection. These systems are popular with governments since they mitigate the mistakes that are rampant with manual filing, and they help to prevent tax evasion by data matching and revealing any inconsistencies in the information filed in the system (Odongo, 2016). In order to boost revenue collection, tax authorities' world over have come up with a number of reforms that will ensure they meet their revenue collection targets. Key among these reforms is the introduction of online tax filing, payment and compliance and monitoring.

Singapore was one of the first economies to adopt electronic systems in its public administration. In 1992 the Inland Revenue Department was replaced by the Inland Revenue Authority of Singapore, which developed an integrated, computerized tax administration system. The authority's first step was shifting from a hard-copy filing system to paperless imaging. Going electronic made administrative processes more efficient by freeing staff from unproductive paper shuffling, enabling better taxpayer service (World Bank, 2014).

Chile's Internal Revenue Service was the country's first public agency to adopt online technology—well before most other public services. Electronic methods were intended to facilitate tax compliance and decrease direct interaction with taxpayers. Chile is one of the few economies that have managed to approach nearly 100% use of electronic systems. Online tax returns were submitted for the first time in 1998 (Doing Business, 2014)

Seeking the benefits of electronic tax systems and reflecting the government's vision of leveraging online technology, Malaysia's Inland Revenue Board (IRB) launched its electronic system for taxes in 2004. IRB aimed to increase revenue collection by improving taxpayer services. The goal was to cut time and cost and to allow taxpayers to comply with tax obligations more easily, enabling IRB to maintain a good reputation with taxpayers even as it widened its tax base. With the new system, taxpayers can complete forms and provide needed payment details online instead of sending them by mail or taking them to a tax office. For every tax filing or payment, taxpayers have to log in, select and complete the appropriate forms, sign and submit them digitally. An acknowledgment is received immediately. The e-filing system automatically calculates the necessary payment details. (Doing Business, 2014)

Kenya, on her part introduced online tax filing and payment through the iTax system in 2013. The iTax system was ideally introduced to improve revenue collection by sealing tax leakages exploited by the taxpayers. VAT is one of the tax obligations that registered taxpayers are required to file their returns online and make payments electronically

Value Added Tax (VAT) is a tax on consumer expenditure introduced in Kenya in January 1990 to replace Sales Tax, which had been in operation since 1973. VAT was introduced as a measure to increase Government revenue through the expansion of the tax base, which hitherto was confined to sale of goods at manufacturing and importation level under the sales tax system. Value Added Tax is a multistage consumption tax applied to the sale of goods and services at all stages of the production and distribution chain. Only registered traders are

required to charge VAT, and for a trader to qualify for registration under VAT, he or she must have an annual sales turnover of Kshs.5 million. (PSC, 2010)

Value Added Tax is charged on the supply of taxable goods or services made or provided in Kenya and on the importation of taxable goods or services into Kenya. Taxable goods and services are contained in the various schedules to the VAT Act. VAT is levied on consumption of taxable goods and services supplied or imported into Kenya and are collected by registered persons at designated points who then remit it to the Commissioner. Registered persons only act as VAT agents in collecting and paying the tax since the tax is borne by the final consumer of goods and services. The basic law is contained in the Value Added Tax Act, Cap. 476 of the Laws of Kenya and the Regulations stemming from it. (PSC, 2010)

As the tax collecting agency for the government of Kenya, KRA has the core mandate of collecting revenue for the Central Government through effective tax administration and customs control. KRA is required by Kenyan law to assess, collect, and account for most government revenues in accordance with the various revenue Acts and advice on matters relating to the administration and collection of revenue. To deliver on its mandate KRA embarked on various automation programmes including but not limited to use of online tax filing, online tax payments and compliance and monitoring initiatives. (KRA 6th Corporate Plan, 2015)

## **1.2 Statement of the Problem**

Meeting the set revenue targets is the ultimate goal of any revenue administration in the world. Despite the increasing need to increase revenue collection and enforcement so as to provide public services, and the introduction of electronic tax systems in most countries across the global divide. Developing countries like Kenya, still faces the challenges of missed revenue targets and under performance in revenue collection especially with VAT revenue collection. The study of Tax Compliance by Design (OECD, 2014) describes how tax compliance can be improved by building on technological developments (for example Mobile payment systems, electronic invoices, cash registers and online accounting systems) and collaboration with stakeholders.

Despite that the fact tax authorities are investing billions of funds on electronic systems, it is not yet established whether the set level of revenue collection is attainable, especially with VAT revenue as it constitutes a large percentage of domestic revenue. Reports generated from KRA iTax system indicated that a significant percentage of registered VAT firms are Nil or

Non-filers, (Business Daily, 2017). For example, in the month of January 2018, Machakos VAT filing report, total of 1587 VAT registered taxpayers either returned a nil return or a return with zero liability while others didn't file a VAT return and 1219 filed a credit return whereas, 591 filed liability returns. This contradicted KRA iTax inconsistency data reports which indicated that some of these firms had conducted business with withholding tax agents during the same period but failed to file and pay the VAT for the stated month.

VAT in general continues to perform below expectations despite the increased taxable business transactions especially among firms dealing with the registered withholding tax agents. The recent PIN suspension initiative implemented by KRA was employed to all individuals and firms which either had registered for VAT and have not been filing or those transacting vatable supplies and did not declare revealed that the number of businesses transacting with vatable supplies are either nil or non-fillers and could be three times the number of business that are actually registered and filing their returns. The question to ask here is has the iTax systems as implemented been able to minimize the non-compliance and increase VAT revenue collection as envisioned. If yes to what extent and what can be done to mitigate the challenge currently facing revenue collection.

Several studies have been undertaken to explain the effect of electronic tax systems on tax compliance and revenue collection for example.

Jimenez, Mac Sionnaigh, & Kamenov, (2013) looked at the use of information technology (IT) solutions by tax administrators to meet operational and strategic needs. The study concludes that innovative tax information systems will enable the tax authority to achieve its long-term strategic goals for example effectiveness and efficiency in collecting tax. The glaring gap was the research was done when iTax system was just launched and online, filing and payment had not been made mandatory. The researcher opted to conduct the research to fill this gap and find out the impact of VAT revenue collection two years after iTax services was made mandatory.

Maisiba & Atambo, (2016) sought to determine the effects of Electronic-Tax System on the revenue collection efficiency of Kenya Revenue Authority. The study focused on Uashin Gishu county. The research focus was general and did not specify any one aspect as this research sought to focus on VAT revenue collection. Sabul (2017) in her study assessed the impact of the iTax system on tax compliance in Kenya. The study only focused on compliance and not on VAT revenue collection. From the various research studies conducted in Kenya since the implementation of the iTax system, none of these studies seek to address the impact of iTax system on VAT revenue

collection, especially in Machakos town. The study is therefore necessary to bridge this underlying gap by assessing the impact of iTax on VAT revenue collection in Machakos town

### **1.3 Objectives of the Study**

The general objective of this study was to establish the impact of the iTax system on VAT revenue collection. This study was guided by the following objectives;

- a) To establish the impact of online filing on VAT revenue collection
- b) To find out the impact of online payments on VAT revenue collection
- c) To establish the impact of online a monitoring on VAT revenue collection

### **1.4 Research Questions**

The study sought answers to the following research questions:

1. What is the impact of online filing on VAT revenue collection?
2. What is the impact of online payments on VAT revenue collection?
3. What is the impact of online monitoring on VAT revenue collection?

### **1.5 Justification of the Research Study**

This study is significant since the Kenyan government relies heavily on taxes to fund its development and recurrent expenditure. An increase or decline in tax revenues has a direct bearing on the Kenyan economy. The findings of the study will therefore help the Kenya Revenue Authority to enhance the iTax system as per the recommendations that will be given and suggestions incorporated in the system. This will assist in enhancing VAT revenue collection in at Machakos station. The study is likely to reveal the strengths or weaknesses associated with implementation of electronic tax services such as iTax thus enriching their providing valuable knowledge and information to other government institutions planning to embark on similar modernization programs. It will enable the KRA to put in place effective measures to enhance the adoption of online tax filing and payment systems to be used by taxpayers and to seal any revenue leakages and loopholes like tax evasion. Finally, the government can use the findings to enhance future policy formulation and highlight issues of interest that need further redress.

Financial institutions and investors in tax technologies will find the information useful when developing tax administration systems. Finally, the study results and recommendations may provide useful information to scholars carrying out research in matters pertaining to use of iTax systems and revenue collection

### **1.6 Scope of the Research Study**

This research study seeks to find out the impact of iTax on VAT revenue collection at KRA and more specifically at Machakos station. This study will focus on KRA DTD officers at KRA Machakos station. The process will involve checking total returns filed, total VAT revenue collected, and the number of VAT nil/non-filers in the iTax system. Questionnaires will be used to collect primary data and secondary data will be obtained from KRA yearly reports and treasury revenue reports. KRA Machakos station is located in Machakos county. The county had a population of 1,098,584 as of 2009. The county borders Nairobi and Kiambu counties to the west, Embu to the north, Kitui to the east, Makueni to the south, Kajiado to the south west, and Muranga and Kirinyaga to the North West.

### **1.7 Limitations of the Research Study**

The following limitations are applicable to this research study. The study was limited to impact of the iTax system on VAT revenue collection in Machakos station. There is a need for another study to be conducted to cover other tax obligations such as Income Tax, Pay As You Earn among others. There is also a need to replicate the study in other KRA stations in Kenya for external validity and generalization of the results

Survey research is susceptible to participant bias, and it is known that individuals agreed more on socially desirable answers and disagreed more towards socially undesirable answers rather than fully and truly express their feelings and opinions. Secondly, as questionnaires were used to collect the data, the views of the participants will be those at the specific point in time of conducting the survey. To overcome these limitations, the researcher provided an assurance to the respondents regarding the confidentiality of their responses. The questions in the questionnaires was also designed objectively so as to minimize any bias and subjectivity

Time was also a major challenge from the researcher as the researcher was also on full time employment. This was sorted out by a researcher taking two weeks leave to collect and analyze data within stipulated time frame.

# CHAPTER TWO: LITERATURE REVIEW

## 2.1 Introduction

This chapter discusses the use of iTax system and its impacts on VAT revenue collection. The discussions are based on three chosen theories that provide the theoretical background of this study. The theory includes, technology acceptance model (TAM), Theory of Planned Behaviour (TPB) and theory of reasoned action (TRA). This was followed by the existing empirical evidence for each variable and a conceptual framework of the same. Critic of existing literature that have been advanced by different scholars on the use of electronic tax services or systems such as iTax. This provides a rich research setting which has been discussed at length. In conclusion a summary was drawn from this review of literature. And the research gap was also discussed in details.

## 2.2 Theoretical Literature Review

It is important to lay out the theoretical foundations of this research study. This study borrows from existing research theories which have been put across by various scholars with regard to use of technology in society and tax compliance and revenue collection. A brief explanation of some of the theories are given below

### 2.2.1 Technology Acceptance Model (TAM)

The technology acceptance model (TAM) is an information systems theory that models how users come to accept and use a technology. The model suggests that when users are presented with a new technology, a number of factors influence their decision about how and when they will use it, notably: Perceived usefulness (PU) – “this is the degree to which a person believes that using a particular system would enhance his or her job performance”; and Perceived ease-of-use (PEOU) – “this is the degree to which a person believes that using a particular system would be free from effort" (Davis 1989).

TAM proposes external variables as the basis for tracing the impact of external factors on two main internal beliefs, which are perceived usefulness and perceived ease of use, while perceived ease of use also affects perceived usefulness over and above external variables. These two beliefs both influence users’ attitude toward using an information system (Wang & Liu, 2005)

In a related study, Chen and Huang (2006) predicted taxpayers acceptance of online taxation use. The study proposed an extended model to predict user's acceptance of an online taxation system for their personal income based on TAM and diffusion of innovation (DOI). The findings revealed that taxpayer's attitudes toward using online taxation are strongly and positively correlated with user's acceptance. The empirical results confirm that PEOU, PU, compatibility, and Perceived Risk (PR) significantly influence taxpayer's attitudes toward using Online Tax Systems (OTS). It also confirmed the significant effect of PEOU of the OTS on perceived usefulness. The findings also show that compatibility, PU, PR and the attitude toward using OTS influence taxpayer's intentions to use an online taxation system.

TAM has been validated as a model for predicting systems usage behaviour. Although information systems researchers have investigated and replicated the TAM and agreed that it is valid in predicting the individual's acceptance of various corporate ITs, TAM's fundamental constructs do not fully reflect the specific influences of technological and usage-context factors that may alter the acceptance of the users. As Davis noted, future technology acceptance research needs to address how other variables affect usefulness, ease of use, and user acceptance. However, factors affecting the acceptance of a new IT are likely to vary with the technology, target users, and the context. Recent research has indicated that "trust" has a striking influence on user willingness to engage in online exchanges of money and personal sensitive information. Therefore, perceived ease of use and perceived usefulness may not properly explain the user's intention to adopt the electronic tax-filing system. Consequently, it becomes necessary to search for additional factors that can better predict the acceptance of electronic tax-filing systems.

The theory is crucial in this study since it explains how and when taxpayers will be willing to file and pay their taxes using the iTax system. Therefore, the perceived ease of use and perceived usefulness of the iTax system will influence taxpayer behaviour towards online filing and payment

### **2.2.2 Theory of Planned Behaviour**

Ajzen's (1991) Theory of Planned Behaviour (TPB) is a theory within the field of social psychology. TPB theorizes that individuals make rational choices to engage (or not engage) in the behaviour of interest. The choices made are influenced by individuals' own beliefs about the outcome and the evaluation of the favourableness (or unfavourableness) of the outcomes from engaging in the target behaviour. These beliefs and expected outcomes underlie three conceptually distinct salient beliefs, which are central to the TPB Model: behavioural beliefs

(perceived beliefs about the likely outcomes from engaging in the target behaviour and the evaluation of the desirability of these outcomes); normative beliefs (perceived social pressure); and control beliefs (perceived ease or difficulty of engaging in a desired/undesired behaviour). Collectively, these elements influence individuals' intentions to engage in the target behaviour.

An individual's intention to behave in turn (together with the direct effect of perceived behavioural control) influences an individual's behaviour. Since its development some twenty years ago, the TPB has been widely used to explain human behaviour. The literature suggests that the TPB is one of the most influential models in predicting behavioural intentions and behaviours, and it has been comprehensively validated in the behavioural domain (Smart, 2013).

In conclusion, the Theory of Planned Behavior suggests that individuals' intentions, together with their perceived control over the behavior determine whether or not they will actually engage in the behavior. This means that if the taxpayer is aware of online monitoring of tax transactions, he/she will try to correctly declare by filing the returns and make the correct payments

### **2.2.3 Theory of Reasoned Action**

Many researchers have used theory of reasoned action (TRA) in their studies. The theory has been applied to various behavioural situations (Chu & Wu, 2004; Hanno & Violette, 1996; Oliver & Bearden, 1985; Shimp & Kavas, 1984) and has been used to explain human behaviour as a dominant theoretical framework (Fishbein & Ajzen, 1975). Behavioural performance in the theory can be predicted from people's intentions (Fishbein & Ajzen, 1975).

TRA focus is on behavioural intention as antecedent to actual behaviour. Intentions are assumed to capture the motivational factors that influence behaviour. Intention indicates how hard individuals are willing to try or how much effort they would exert to perform the behaviour (Ajzen, 1991). In order to understand a particular individual's behaviour (for example taxpayer's behaviour), it is important to identify the determinant of behavioural intention (Hanno & Violette, 1996). TRA postulates two independent determinants of intentions that is attitude toward behaviour and subjective norms. Ajzen and Fishbein (1980) defined attitude as the degree to which an individual has a good or poor evaluation on a particular behaviour.

One of the factors that determine attitudes is behavioural belief, which involves evaluation of the consequences or outcomes of a particular behaviour (Ajzen & Fishbein, 1980). Attitudes are influenced by a belief in an outcome in which its degree is measured in terms of outcome

evaluation. Subjective norms refer to social pressures perceived to be exerted on an individual to act or not to act (Ajzen, 1991). The belief that underlies subjective norms is referred to as normative belief. Normative belief is influenced by one's belief toward a referent other or referent group. This means that an individual attempt to carry out an action when he/she believes that other people think it is important for them to carry out the act. (Bidin, Shamsudin, & Othman, 2014)

This theory will be important in predicting taxpayer behavior in relation to online filing and online payment because TPB proposes a direct relationship between intention and behaviour. Intention is an essential component of online filing and payment as it is only through the willing participation of taxpayers that revenue is collected

### **2.3 Empirical Review**

Because tax authorities in various countries pay high attention to the electronic services, there are many studies on on-line tax filing and payments. For examples, Warkentin et al. (2002) discussed the factors affecting the public to use e-government services, including cultural variables, trust, perceived risk, and perceived behavioral control. However, this research is a descriptive paper which only carries out the theme but lack of empirical investigation on the feasibility of the research framework

A research study of South Korea and Turkey on user evaluation of tax filing web sites was done by Lee et al. (2013), to compare the design and the complexity of the web sites and the ease with taxpayers are able to file tax returns and queries on their tax status. While Turkey had a complex online system, to the contrary Turkish users did not find tax filing system difficult to use and that was attributable to the fact that they relied on accounting professionals to do their tax returns online

Amitabh et al. (2009) did a study on the antecedents of paperless income tax filing by young professionals in India. The objective of this study was to study how young Indian professionals will adopt or behave towards paperless or online filing of tax returns with the aim of enhancing compliance. The regression analysis carried out found that the antecedents of young Indian professionals depended on the perceived ease of the tax system, personal innovativeness in information technology, relative advantage, performance of filing service, and compatibility

In Kenya, different studies have been done on the subject of technology and tax compliance with specific reference to tax filing (Muita and Makanga, 2010). Makanga (2010) did a study on the adoption of technology as a strategic tool for enhancing tax compliance in Kenya. The

case study was based on Large Taxpayers which included companies with a turn over Kshs. 750 million and above, or government ministries and corporations. The objective of the study was to evaluate the role Technology would play in Kenya to enhance tax compliance among large taxpayers

Muita (2010) did a related study on the factors that influence adoption and use of e-filing system among Large Taxpayers in Kenya. The study examined the skills required by the users of e-filing, the technology required and the tax authority's preparedness in enhancing the adoption of tax compliance-based technology. The study found that for e-filing to effectively take off in Kenya skills, infrastructure and a conducive business environment are needed.

Another study done by Kamau (2014) focused on the adoption of technology as strategic tool in enhancing tax compliance in Kenya: a case study of large taxpayers of Kenya Revenue Authority. The study examined the impact of adoption of technology as a strategic tool in enhancing tax compliance in Kenya. The study revealed that the adoption of technology does have an impact on the tax compliance levels of the large taxpayers. In addition, it was found that there is a positive relationship between the adoption of technology and the tax compliance levels.

## 2.4 Conceptual Framework

This research study proposes a conceptual framework in which the independent variables are online tax filing, online tax payments and online monitoring and dependent variable is the VAT revenue collection

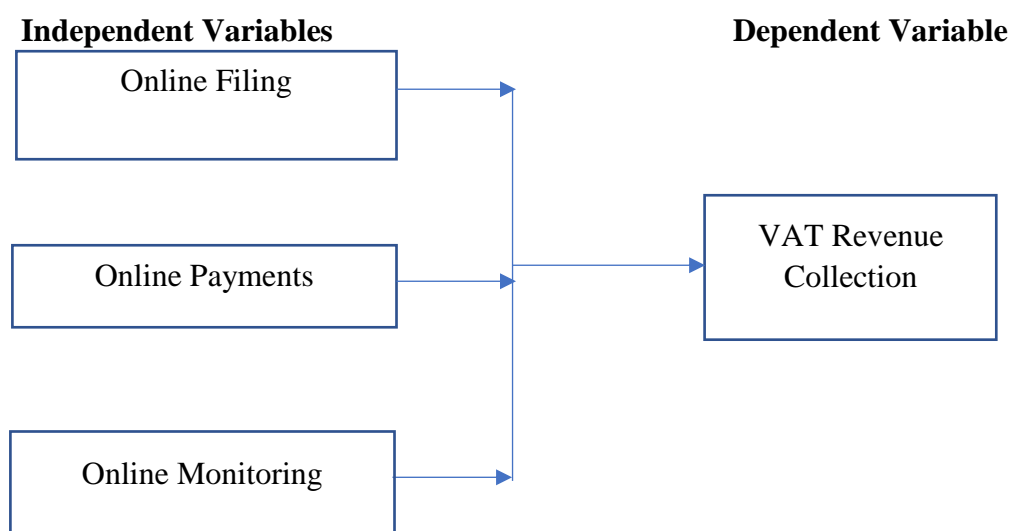


Figure 2.1: Conceptual Framework

### **2.4.1 Online Filing**

Online filing or electronic return filing refers to successful filing of Tax Returns through the internet usually without the need to submit any paper return (Kiringa & Jagongo, 2017). The electronic tax filing systems play an important role in providing periodic tax summaries for both the taxpayers and the authority leading to faster computation of tax payable and credits where applicable. The impact of the electronic tax filing system will be evident and measured by the number of taxpayers on the system, the revenue collection data, taxpayer compliance costs and taxpayer error rate. (Odongo, 2016)

Electronic filing allows taxpayers to submit their tax declarations online instead of in person at the tax office thereby eliminating the need for time-consuming visits to the tax office and frequent interactions with tax officials (and the potential unofficial behaviors that may arise from these interactions) (Okunogbe, 2017). E-filing or online return filing of income tax refers to successful filing of Tax Returns through the internet or web-based tax systems. Electronic systems for filing returns and paying the due taxes, if accepted and adopted by most businesses and individual taxpayers, result in tangible advantages to both the taxpayers and the government.

The government gains in the form of reduced operation costs such as costs associated with submission, storage and handling of returns in addition to saving time which in turn boosts compliance. The taxpayer benefits from the system is form of reduced calculation errors, preparation and filing time. Furthermore, the tax domain is different from other situations where individuals may choose electronic services over traditional services, such as electronic retail services or online banking because the domain (that is the tax law) is fairly complex and most taxpayers are not experts. In addition, e-filing introduces the issues of security and privacy protection and taxpayers' dislike and distrust of the tax authorities and the government in general. Last but not least, e-filing research provides an intersection of various academic disciplines, namely information systems, public finance, public administration, public policy, and accounting (taxation). (Pippin & Tosun, 2014).

The iTax system has simplified the various tax processes, shortening the time taken to file returns and increased revenue collection. Taxpayers can use the iTax system to file returns for Pay As You Earn (PAYE), Value Added Tax (VAT), Individual annual Income Tax Return (IT1), Corporate Tax returns and agency revenue that includes Sugar Development Levy, Stamp Duty and Kenya Bureau of Standards. (KRA, 2015)

Online filing and provides many aspects of 'convenience' to taxpayers (that is time to file, place to conduct the filing, ease-of use, information searching and online transactions) at a degree that is not available through traditional channels. E-filing also offers flexibility of time and reduces calculation error on the tax return form to the taxpayers

In Kenya, the earliest form of the online filing of tax returns was through the implementation of the Integrated Tax Management System (ITMS) in 2013. This was to facilitate the online payments of Value Added Tax (VAT), Corporate Tax amongst others (Lukorito, 2012). The ITMS also connected the Electronic Tax Registers (ETR) devices (registers) to enable simplification of the VAT declarations. The ITMS enabled the taxpayers to undertake electronic filling. In the context of the system requirements, the ITMS required internet explorer 7 or higher or Mozilla Firefox 3.0.3 (Mandola, 2013). Kenya Revenue Authority (KRA) was to later phase out the ITMS and replaced it with the iTax system. The iTax enabled the taxpayer to undertake internet-based registration, filing, paying and status inquiries with real time monitoring of the accounts (Mandola, 2013). (Thomas Gwaro, Maina, & Kwasira, 2016)

The electronic filing or online filing of tax returns is a general term for electronic filing or electronic lodgment or electronic declaration of tax returns through submission of tax data to a taxing authority in a computer file format through an internet connection (Ibrahim, 2012). On the other hand, Mandola (2013) defines electronic filing as an internet-based system that enables the taxpayers to register and submit their tax returns over the internet. The platform or system could have an inbuilt software that has been pre-approved by the relevant tax authority to assist the taxpayers in calculating and consequently submit the correct amount of tax due (Mandola, 2013). The e-filing incorporates the process of registration, tax preparation, tax filing and tax payment (Lukorito, 2012). The taxpayer requires access to a computer, the tax software, a reliable internet connection and the knowledge to utilize the electronic filing (Hussein, Mohamed, Ahlan, Mahmud, & Aditiawarman, 2010).

There are several advantages associated with the online tax filing including convenience as the filing can be done any time (day and night) and within one owns comfort for example at home (Geetha & Sekar, 2012). There is also an element of the certainty of delivery and quick confirmation of the delivery as the online tax system confirms successful receipt of the taxpayers' submission. The online tax returns also eliminate data entry errors as the system

automatically ensures that the data has been filled in the correct places (Hussein et al., 2010). Finally, document handling and storage is easier (Lukwata, 2011)

*Table 2.1: Machakos Station January 2018 VAT Filing Report*

Type of Return	Number
<b>Nil return</b>	1461
<b>Return with Zero Liability</b>	86
<b>Credit Return</b>	1219
<b>Liability Return</b>	591
Total	<b>3357</b>

*Source: KRA iTax System*

Odongo (2016) confirms that electronic tax filing enhances better decision making. A number of taxpayers appreciated the advantages accruing to electronic tax filing such as accuracy, real-time ledger update while noting the slow processing speed around deadlines. The findings from the research study confirmed that electronic tax filing significantly improves tax compliance

A research study done by Kiringa & Jagongo, (2017) revealed that perceptions of taxpayers towards the online filing as well as its perceived ease of use and perceived usefulness greatly determine the use of online tax filing. In addition, it was also observed that majority of the interviewed taxpayers consider it easy to file tax returns online. The technical skills of filing tax returns was also identified as a challenge facing taxpayers as many of them fear the notion and consequences of errors from online filing such as keying-in incorrect information in tax returns that could lead to the wrong calculation of tax payable

#### **2.4.2 Online Payments**

Online tax payment is measured in terms of the revenue collected by Kenya revenue authority and is dependent on the payments made by registered and active taxpayers in the iTax system. This has been facilitated through the integration of the iTax system and the commercial banks through the payment gateway. Taxpayers can also make payments using mobile payment platforms such as M-Pesa and Airtel Money.

According to a study conducted by Okiro (2015) it was found that the e-payment system significantly influenced revenue collection performance by the Nairobi City County Government positively, such that increased adoption of e-payment system increases revenue

collection performance. The study further revealed that the revenue collection performance in Nairobi City County increased considerably after introduction of e-payment system in revenue collection

A study done by Ndayisenga & Shukla (2016) on the Effect of Electronic Tax Management System of Tax Collection in Rwanda it was discovered Internet payment/filing system has made tax auditing/accountability easier and Internet payment/filing system has increased Revenue collection. The study finding further show that clients pay tax easily from anywhere by use of their mobile phone, clients file tax easily from anywhere by use of their mobile phone, clients check tax statement easily from anywhere by use of their mobile phone, clients get tax knowledge easily from anywhere by use of their mobile phone and clients get alert message easily on their mobile. In addition, it was observed that the mobile payment system has made clients pay tax in time and reduced the operational cost. Mobile payment system has also made communication collaboration between tax payers easier and increased Revenue collection

A study done Muturi & Kiarie (2015) to establish the effects of online tax system on tax compliance among small taxpayers in Meru County, Kenya, established that there existed a statistically significant positive effect of the online tax remittances on the tax compliance among small tax payers in Meru County. Therefore, the smaller tax payers remit tax online, the higher the tax compliance

Electronic tax filing and payment systems help taxpayers to meet their obligations on time and improving efficiencies. The iTax system enables users to file and pay their taxes online from the comfort of their homes, offices, or internet café during the day or night. This has greatly reduced the time spent by taxpayers on filing and paying domestic taxes in Kenya. This has removed a great burden from the taxpayer who previously had to physically go to an KRA office, stand in a queue to get a Personal Identification Number (PIN), stand in another queue to submit tax return forms, and stand in a yet another queue to pay. There are currently, more than 40 banks that have been linked to KRA's payment gateway system and provide e-payment services to taxpayers. (Bett & Yudah (2017)

### **2.4.3 Online Monitoring**

Given that the Kenyan tax system functions on the basis of self-assessment, then KRA is obliged to review a number of tax returns every month or year to ensure that taxpayers are entitled to the claims which they have made, and that the amounts have been correctly declared

and calculated. These reviews are an important part of KRA's compliance activities to maintain the integrity of and Kenyans' confidence in the tax system.

Online compliance and monitoring involves online generation of inconsistencies in tax declarations/returns and payments. A study done by Bett & Yudah (2017) revealed that there was a significant contribution of online compliance and monitoring activities on revenue collection at KRA Rift Valley Region. This implies that efficient online compliance and monitoring activities through iTax system has led to close monitoring of taxpayers through readily available data for trend analysis. In addition, online compliance and monitoring activities has led to easy flagging out of inconsistencies in data declared by taxpayers and enhanced voluntary compliance

Some tax returns are chosen for review at random, but the majority are selected based on a sophisticated scoring and matching system. This scoring and matching system is designed to incorporate multiple factors to identify those tax returns that carry the highest potential for inaccuracy of certain claims. The KRA neither targets nor excludes any specific category of people or filing method when reviewing tax returns. It treats all Kenyans equally by using fair and non-discriminatory criteria in selecting tax returns for review.

Online compliance and monitoring activities serve to validate taxpayer information, at the earliest possible moment and at the lowest possible cost, which supports the assessment and collection of tax in Kenya's self-assessment tax system. For issues of non-compliance, the KRA works with individuals to ensure they understand their tax obligations, educate them to accurately file their tax returns by correcting errors, and also identify and take enforcement measures, where necessary, for individuals who choose to avoid the full extent of their tax obligations.

## **2.5 Critique of the existing literature**

In Kenya, the studies which have been done have mainly focused on Large Taxpayers and those based in Nairobi which are generally considered advanced in technology and understand the implications of non-compliance. Small and medium based taxpayers who form the majority of VAT taxpayers carry the burden of tax payment in Kenya, however no empirical studies have been done to establish the effect of electronic tax services on VAT revenue collection among VAT registered tax payers in KRA Machakos station. The current study should therefore, fill the knowledge gap by focusing on the impact of electronic tax services on VAT revenue collection in KRA Machakos station.

## **2.6 Chapter Summary**

Chapter two has taken an in-depth study of related empirical studies done in the past in relation to the impact of electronic tax services on VAT revenue collection in other jurisdictions other than Kenya. The review of literature in this chapter has been keenly guided by the three research objectives and research questions

The chapter has critically reviewed the literature with the aim of establishing knowledge gaps with the sole purpose of justifying the current research study. Once the knowledge gaps have been identified, the researcher has then developed a conceptual framework to act as the model for the research study in answering the research questions. The next chapter will handle the methodology that the researcher will use to answer the research questions and the research study objectives.

## **2.7 Research gaps**

Several studies have been done in Kenya on the subject of technology and tax compliance with specific reference to tax filing. Makanga (2010) did a study on the adoption of technology as a strategic tool for enhancing tax compliance in Kenya. The objective of the study was to evaluate the role Technology would play in Kenya to enhance tax compliance among large taxpayers

Muita (2010) did a related study on the factors that influence adoption and use of e-filing system among Large Taxpayers in Kenya. The study examined the skills required by the users of e-filing, the technology required and the tax authority's preparedness in enhancing the adoption of tax compliance-based technology.

Another study done by Kamau (2014) focused on the adoption of technology as strategic tool in enhancing tax compliance in Kenya: a case study of large taxpayers of Kenya Revenue Authority. The study examined the impact of adoption of technology as a strategic tool in enhancing tax compliance in Kenya.

Analysis of these research studies reveals that; no research study has ever been done in Kenya on the impact of the iTax system on VAT revenue collection in KRA. This study seeks to fill this gap by evaluating the impact of online tax filing and payments on VAT revenue collection at Kenya Revenue Authority. With Value added tax (VAT) becoming a major source of revenue in many developing countries, it is good to investigate the impact of online tax filing and payments on VAT revenue collection.

## **CHAPTER THREE: RESEARCH METHODOLOGY**

### **3.1 Introduction**

This chapter sets out various stages and phases that were followed in completing the research study. It involves a blueprint for the collection, measurement and analysis of data. This chapter discusses a step by step account of how the research work was carried out to obtain the information necessary to cover the four research objectives.

### **3.2 Research Design**

A research design is the arrangement of conditions for collection and analysis of data in a manner that aims to combine relevance to the research purpose with economy in procedure.” In fact, the research design is the conceptual structure within which research is conducted; it constitutes the blueprint for the collection, measurement and analysis of data (Kothari and Garg, 2016)

The research problem was solved using descriptive study design. Descriptive research study is concerned with describing a population with respect to important variables with the major emphasis being establishing the relationship between the variables (Kothari, 2006). The advantage of descriptive research design is that it is suitable when the population is large. Kothari (2006) indicated that descriptive research is important because it acts as a pre-cursor to quantitative research design and the general overview gives some valuable pointers as to what variables are worth testing quantitatively. It constitutes the blue print (guide) for the collection, measurement, and analysis of data. The design was preferred because it helps produce data that is holistic, contextual, descriptive, in-depth and rich in details. As this design does not allow the researcher to manipulate either the independent variables or the research setting, it is appropriate because of its higher external validity and cost. This allowed the research study to be completed within the constraints imposed by limited time and financial resources

This descriptive study design enabled an analysis of the relationship between VAT revenue collection and online filing of tax returns, online payment of taxes due and online monitoring. A research study done by Wasao (2014) utilized the descriptive study design by using it to effectively analyse the relationship between technology and levels of tax compliance in terms of on-line filing of tax returns and on-line remittance of taxes due

Odongo (2016) in his research study also utilized the descriptive study design approach to establish and analyze the possible relationship subsisting between electronic filing system and

tax compliance levels demonstrated by the degree of adherence to electronic filing of returns for various taxes and their tax due remittance. The research study was able to establish the effects of electronic filing systems on tax compliance among the small and medium enterprises within Mombasa Central Business District.

### 3.3 Target Population

According to Kothari (2006), a population refers to an entire group of individuals, events or objects having a common observable characteristic. Research questions are designed to address issues of great relevance to groups of individuals known as a target population. In this context the target population was the 78 KRA DTD officers in KRA Machakos station

### 3.4 Sampling Frame

According to Schindler and Cooper (2001), a sampling frame comprises of a list of people from which the researcher uses to obtain information about the study. Generally, sampling frames can be divided into two types, list and non-list. Examples of list frames include a list of registered voters in a town, residents listed in a local telephone directory, or a roster of students enrolled in a course. A sampling frame includes a numerical identifier for each individual, plus other identifying information about characteristics of the individuals, to aid in analysis and allow for division into further frames for more in-depth analysis. The researcher used a list sampling frame. This consists of KRA DTD officers at Machakos station.

### 3.5 Sample and sampling technique

Sampling techniques are considered to be the strategies used by researchers in the statistical sampling process (Cooper and Schindler, 2001)

In order to determine the sample for various target taxpayers, Fisher's Model for computing sample size where the target population is large. The sample size was determined by employing the equation below:

$$\text{Equation } n = \frac{z^{2*} p q}{\epsilon^2}$$

#### ***Equation***

*n* = refer to the desired sample size

*Z* = the standard normal deviate usually set at 1.96 which corresponds to the 95% confidence level.

*P* = Population of the target population estimated to have a particular characteristic, 50% is normally used because it is the recommended measure if there is lack of reasonable estimate.

$$q=1.0 - p$$

*e*=degree of accuracy desired in this context set at 0.05

$$n = \frac{z^2 * p * q}{\epsilon^2} = \frac{(1.96)^2 (0.5) (0.5)}{(0.05)^2} = 384$$

Given that the target population is less than 10,000. Therefore, the actual sample size will be;

$$nf = n / (1 + \frac{n}{N})$$

Where nf = desired sample size (when population is less than 10,000).

n = desired sample size (when population is more than 10,000).

N = the estimate of population size.

The target population for the study was 78 KRA DTD officers in Machakos station

$$nf = 384 / (1 + 384/78)$$

$$= 65$$

### **3.6 Data Collection Instruments**

In data collection, the researcher should describe the major instrument(s) for collecting data from the subjects, Schindler and Cooper (2001). In this study the main data collection instruments will be the questionnaires containing both open ended and close ended questions. Questionnaires are preferred because they are effective data collection instruments that allow respondents to give much of their opinions pertaining to the researched problem. The questionnaires will use the five Likert scale (from strongly agree to strongly disagree). The questionnaires will be administered to KRA Domestic Taxes staff at Machakos station and sampled VAT taxpayers at Machakos station. Secondary data relating to VAT revenue collection in Kenya together with the trend will be obtained from KRA revenue reports. Questionnaires will have an introductory letter introducing the researcher to the respondents and explaining the purpose of the research. Respondents will be assured of strict confidentiality of the information they have shared with the researcher and that the information will be strictly for research purposes. This will be done in order to enhance the response rate

### **3.7 Data collection procedure**

The study will utilize both primary and secondary data. Primary data was obtained by use of structured questionnaire containing both open-ended and close ended questions. The questionnaires were administered to KRA DTD officers at Machakos station. Secondary data to support the growth of VAT revenue collection together with the trend was obtained from published revenue collection reports (ICPAK, 2015)

### **3.8 Pilot Study**

Pilot study was done as stated by Saunders et al. (2009) and this helped to test the survey instrument, helped to validate the questions, remove errors of omission and commission, rectify mistakes and check the general structure of the questionnaire. This was carried out before proceeding to collect the actual data for analysis. Hence a pilot study was 10 KRA DTD staff in North of Nairobi station. The intention of carrying out a pilot study outside the study area was to avoid affecting the study sample. The rule of thumb is that 1% of the sample should constitute the pilot test (Cooper & Schilder, 2011).

### **3.9 Data analysis**

Once the questionnaires were collected, they were screened, coded and entered into SPSS. Appropriate descriptive statistics such as Frequencies, Central tendencies (mean, median, mode), Measures of dispersion (Std. deviation, range, and variance) and linear regression were used in the analysis. The analyzed data was presented in form of tables, charts, and graphs for ease of understanding and interpretation. The quantitative data was collected using a 4 Point Likert Scale designed on a continuum ranging for example from strongly agree to strongly disagree among other scales. This helped in computing percentage scores that eventually generated the ultimate measures of customer satisfaction

#### **3.9.1 Analytical Model**

The following regression analysis was used to determine the impact of iTax system on VAT revenue collection in KRA. The research analytical model was depicted by the linear equation given below:

$$Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \pi$$

Where:

$Y = VAT\ Revenue\ Collection$

$\beta_0 - \beta_3 = Regression\ coefficient\ of\ independent\ variable$

$X1 = \text{Online filing}$

$X2 = \text{Online payments}$

$X3 = \text{Online Monitoring}$

$\pi$  = error term, it takes into account all the possible factors that would possibly influence the dependent variable though not captured in the model

## CHAPTER FOUR

### RESEARCH FINDINGS AND DISCUSSION

#### 4.1 Introduction

This chapter discusses findings that were obtained in the analysis of the impact of iTax system on VAT revenue collection in Machakos station. This was done using methodology that was discussed in chapter three above. The chapter discusses the summary statistics of the variables that were used and the other statistical measures of the variability. The variables included services offered on iTax such as online filing, online payments and online monitoring. The data collected and analyzed was both primary and secondary data. The research sampled 65 KRA officers stationed at Machakos station and the data were interpreted as per the research questions.

#### 4.2 Response Rate

Sixty-five (65) questionnaires were distributed KRA DTD officers. Out of that 59 questionnaires were returned, from which 3 questionnaires were discarded for being incomplete. The researcher ended up with 56 usable questionnaires which represented a response rate of 86%. Mugenda and Mugenda (2003) recommend a response rate of 50-70%. Therefore, the response rate of 86% which was above the recommended percentage by Mugenda. The high response was attributed to the respondent's enthusiasm to participate as the researcher explained the reason for conducting research

**Table 4.1 Response Rate**

Response	A questionnaire administered	Questionnaire filled and returned	Percentage
<b>Total</b>	<b>65</b>	<b>59</b>	<b>86%</b>

### 4.2.1 Reliability Analysis

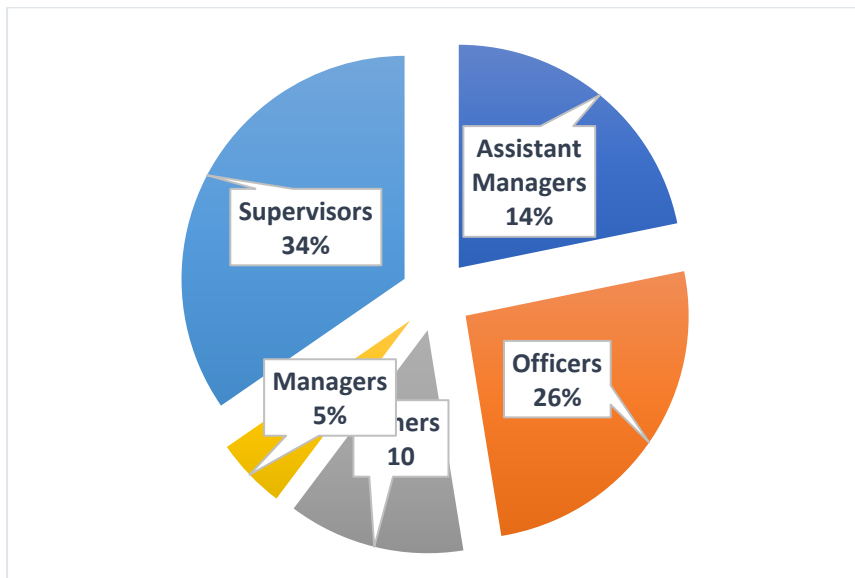
Prior to the actual study, the researcher carried out a pilot study to pre-test the validity and reliability of data collected using the questionnaire. The pilot study allowed for pretesting of the research instrument. The result on reliability of the research instruments are presented in Table 4.2 below

**Table 4.2: Reliability Coefficient Results**

Scale	Cronbach's Alpha	Number of item
Online filing	0.739	5
Online payment	0.742	5
Online monitoring	0.802	5
Revenue collection	0.871	5

Cronbach's alpha of well above 0.7 implied that the instruments were sufficiently reliable for the measurement. As most item total correlations were reasonably high, with Cronbach's alpha exceeding 0.7, the construct validity of the instrument was considered accurate (Bryson 2002).

### 4.2.2 Analysis of position held by respondents within the Authority



**Fig 4.1 Respondent Positions in KRA Machakos**

Fig.4.1 Above shows the percentage of the respondent positions within the organization with the majority of respondents holding supervisors position with 34% followed by officers with 26% percent. In addition 14% of the respondents were holding positions of Assistant managers, others were represented by 10% while the position with least staff according to the respondents were manager

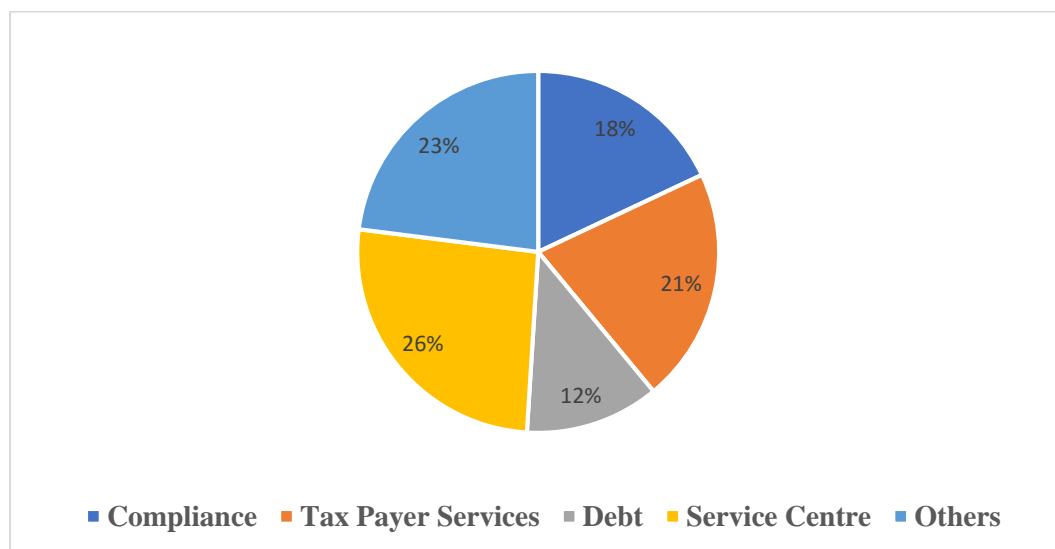
#### 4.2.3 Distribution by Length of service period in KRA

**Table 4.3 Distribution of respondents by Length of service period at KRA**

Length of Service	Number of respondent	%
<b>Less than 1 year</b>	7	12.5
<b>1-5 years</b>	21	37.5
<b>6-10 years</b>	14	25
<b>11-15 years</b>	6	10.7
<b>16-20 years</b>	5	8.9
<b>More than 20 Years</b>	3	5.4
<b>Total</b>	56	100

The staff who participated by filling the questionnaire from Machakos had worked for KRA for different number of years as captured in Table 4.4. Majority (37.5%) of the respondents had worked for 1-5 years, 12.5% worked for less than a year while 10.7% have worked for 11-15 years. Further 25% had worked for a period of 6-10 years while only 5.4% have worked for more than 20 years.

#### 4.2.4 Analysis of respondent by the sections or departments

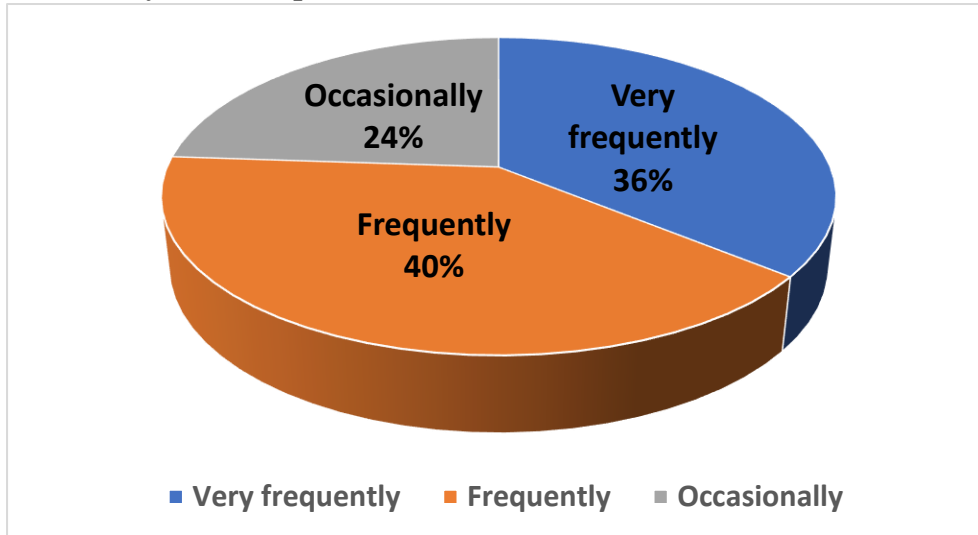


**Fig.4.2 Distribution of respondents by the sections or departments**

Staff from Machakos were asked to indicate the section or department where they are stationed and fig 4.2 above shows the various sections the respondent operate from. 26% of the

respondents of which are the majority indicated they were from the Service Centre who frequently assist tax payers in filing and generating payment slips of various tax obligations including VAT. Additionally, 23% percent of respondents indicated that they were from other departments such as ICT, Marketing and Communication. Debt section was represented by the least percentage of 12% as shown in the above figure.

#### 4.2.5 Analysis of Frequent interaction with iTax



**Fig.4.3 Analysis of Frequent interaction with iTax**

Respondents were asked to state how frequent they were interacting with iTax system when performing their duties. Finding shows that the majority of the staff interacted with the iTax system very frequently while the lowest percentage were interacting with it occasionally as depicted in the figure above. This shows that iTax system was very popular and a significant number of the officers were using it.

#### 4.3 DTD staff perspective on the use of iTax system on VAT revenue collection

The KRA DTD staff from Machakos station indicated their level of agreement with the following statements regarding the use of iTax system on a scale of 1-4: where 1-Strongly agree, 2. Somewhat agree, 3- Somewhat disagree, and 4-Strongly disagree

**Table 4.4 VAT Filing using iTax**

Statements	N	Mean	Standard deviation
Filing of VAT return is simple and easy	55	1.323	.8073
Filing of VAT return takes shorter time	56	1.7445	.9068
Filing VAT using iTax system has reduced the number of taxpayers visiting the KRA premises to be assisted in filing VAT return	56	2.3131	.7037
Filing VAT using iTax system has enabled KRA to identify VAT defaulters and enforce payment measures	56	1.1043	.8541
Filing VAT using iTax has encouraged voluntary compliance among tax payers	56	2.515	.9711

According to findings on table 4.4 above, the respondents strongly agreed with the fact that Filing of VAT return is simple and easy with means score of 1.323 with a standard deviation of 8073. This shows that that VAT filing in iTax system process has been made easier on iTax. The respondents also strongly agreed with the statement of filing of VAT return takes shorter time with a means of 1.7445 with a standard deviation of .9068. This is contrary to the assumption made during the first time the system was launch when there was an outrage that the iTax system was cumbersome to use. However, respondents somewhat agreed with the statement of VAT filing using iTax system has reduced the number of taxpayers visiting the KRA premises to be assisted in filing VAT return with a means of 2.3131 with a standard deviation of 7037. This shows that even though iTax system has made it simple and easy file returns it has not reduced the number of taxpayers visiting the KRA premises.

Quite a number of tax payers still visit the KRA premises to get assisted. Additionally, Machakos staff strongly agreed with the fact that, Filing VAT using iTax system has enabled KRA to identify VAT defaulters and enforce payment measures with a means score of 1.1043 with a standard deviation of .8541. Lastly, respondents somewhat agreed with the fact that filing VAT using iTax system has encouraged voluntary compliance among tax payers with a means score of 2.515 and standard deviation of 0.9711. With the target population being homogenous, the standard deviation small margin of variation between 0.9711 and 0.7037.

**Table 4.5 Online Payment of VAT using iTax system**

Statements	N	Mean	Standard deviation
Online payment has enhanced prompt VAT payments.	56	1.323	.9073
VAT Payment procedure is simple and has been made easier through the use of iTax	56	1.4541	.8068
Online VAT Payment is faster and saves time and this has increased chances of paying taxes	56	2.1131	.9037
Electronic VAT Payment has enabled tax payers to file and pay using their mobile phones	56	1.9103	.7546
Electronic generation of payment slip has reduced chances of evading payment of tax	55	2.9159	1.0711

From the findings in table 4.5 above. The respondents also strongly agreed with the statement, online VAT payment has enhanced prompt VAT payments with a means score of 1.323. with a standard deviation.9073 of Furthermore, the respondents somewhat agreed with the fact that VAT Payment procedure is simple and has been made easier through the use of electronic payment systems with a means score of 1.4541 with a standard deviation of 8068. Additionally, Staff in Machakos somewhat agreed with the facts that online VAT Payment is faster and saves time and this has increased chances of paying taxes with a means score of 2.1131 with a standard deviation of .9037.

When asked to state whether online VAT payments has enabled tax payers to file and pay using their mobile phones; the respondents agreed with the statement with a means score of 1.9103 with a standard deviation of 0.7546. However, respondents somewhat disagreed with the statement; electronic generation of payment slip has reduced chances of evading payment of

tax as the means draws to 2.9159 with standard deviation of 1.0711. This indicates that electronic generation of payment slip has not effectively contributed to tax payers evading tax payments as cases of tax evasion is still high as revealed in the recent PIN deactivation exercise. With the target population being homogenous, that is the population was purely KRA staff, the standard deviation is of a small margin of variation with the highest value of 1.0711 and the lowest value 0.7546

**Table 4.6 Online Monitoring**

Statements	N	Mean	Standard deviation
iTax system has enabled KRA to authenticate taxpayer VAT returns and assess VAT tax liabilities	56	2.1135	.9683
iTax has enabled KRA to monitor taxpayer's registration details and identify inconsistencies	56	1.9453	.7513
iTax has enabled KRA officers to identify VAT defaulters and enforce payment measures	56	1.9217	1.073
iTax has enabled KRA officers to raise additional assessment with regards to VAT payments	56	2.1873	.8497
iTax has enabled taxpayers to see various transactions and payments in the taxpayer's ledger account	56	1.1843	.7983

When asked to state whether iTax system has enabled KRA to authenticate taxpayer VAT returns and assess VAT tax liabilities, KRA staff in Machakos station somewhat agreed with the fact with a means score of 2.1135 with a standard deviation of .9683. Additionally, the respondents somewhat agreed with the fact that iTax has enabled KRA to monitor taxpayer's registration details and identify inconsistencies with a mean score of 1.9453 and standard deviation of .7513. The respondent further agreed with the fact that iTax system has enabled KRA officers to raise additional assessment with regards to VAT payments with a means score of 2.1873 with a standard deviation of .8497. Findings revealed that the iTax system has enabled taxpayers to see various transactions and payments in taxpayer's ledger account with the

respondent strongly agreed with the statement with a mean score of. 1.1843 and standard deviation of 0.7983.

**Table 4.7 Revenue collection**

Statements	N	Mean	Standard deviation
Real time update of taxpayer ledger account has increased chances of accuracy and transparency with regards to VAT tax payment hence increasing revenue collections.	56	1.1135	1.0533
Since the introduction of mandatory filing, and Payment of VAT the VAT revenue collection has increased.	56	1.7453	.9513
Electronic tax system has encouraged voluntary compliance among tax payers hence increasing revenue collections	56	1.4217	.9753
With the use of iTax system, it is easy to detect under declaration of VAT tax or non-declaration of VAT tax liability among tax payers	56	2.1873	.8997
Electronic tax system has enabled KRA to detect unregistered tax payers who transact vatable goods without declaring the same	56	1.1843	1.078

From the table 4.7 above findings shows that the respondent strongly agreed with fact the real time update of taxpayer ledger account has increased chances of accuracy and transparency with regards to VAT tax payment hence increasing revenue collections with a mean score of 1.1135 and standard deviation of 1.0533 Moreover, the respondents also agreed with the fact that since the introduction of mandatory filing, Payment of VAT the VAT revenue collection has increased tremendously with a means score of 1.7453 and standard deviation of 0.9513

Furthermore, findings also indicated that iTax system has encouraged voluntary compliance among tax payers hence increasing revenue collections with a means score of and standard deviation of 1.4217 and standard deviation 0.9753. In addition to this, findings indicate that with the use of the iTax system, it is easy to detect under declaration of VAT or non-declaration of VAT tax

liability among tax payers with a means 2.1873. Lastly, the respondents agreed with the fact that iTax system has enabled KRA to detect unregistered tax payers who transact vatable goods without declaring the same with a means score of 1. 1843 and standard deviation of 1.078. The finding concludes that iTax system has indeed increased VAT revenue collection by facilitating the process of online filing, payment and online monitoring. The population being homogenous this resulted to a small margin variation

#### 4.4 Correlation Analysis Matrix

The correlation analysis is one of the most common and most useful statistics. A correlation is a single number that describes the degree of relationship between two variables (Wilcox D.W.2010). The results show that online filing had a positive correlation on VAT revenue collection. Online payment had a positive correlation on VAT revenue collection. Online monitoring had a positive correlation on VAT revenue collection This indicates that online filing, online payment and online monitoring had significant impact on revenue collection.

**Table 4.8 Correlation Analysis Matrix**

#### Correlations

		<b>Online Filing</b>	<b>Online Payment</b>	<b>Online Monitoring</b>	<b>VAT Revenue Collection</b>
<b>Online Filing</b>	Pearson Correlation	1	.510**	.148	.028
	Sig. (2-tailed)		.000	.000	.000
	N	56	56	56	56
<b>Online Payment</b>	Pearson Correlation	.510**	1	.515**	.172
	Sig.(2tailed)	.000		.000	.000
	N	56	56	56	56
<b>Online Monitoring</b>	Pearson Correlation	.148	.515**	1	.488**
	Sig.(2tailed)	.000	.000		.000
	N	56	56	56	56
<b>VAT Revenue Collection</b>	Pearson Correlation	.028	.172	.488**	1
	Sig.(2tailed)	.000	.000	.000	
	N	56	56	56	56

**\*\*correlation is significant at the 0.01 level (2-tailed)**

**Table 4.9 Coefficient of Determination**

<b>Model Summary</b>				
<b>Model</b>	<b>R</b>	<b>R Square</b>	<b>Adjusted R Square</b>	<b>Std. Error of the Estimate</b>
<b>1</b>	<b>.497<sup>a</sup></b>	<b>.247</b>	<b>.196</b>	<b>2.48889</b>

**Predictor (constant)** Predictors: (Constant), Online Filing, Online Payment, online monitoring

#### **4.5 Coefficient of Determination**

Coefficient of determination explains the extent to which changes in the dependent variable can be explained by the change in the independent variables or the percentage of variations in the dependent variable (revenue collection) that is explained by all independent variables. The findings indicate that 24.7% of revenue collection is attributed to combination of the three independent factors investigated in this study (online filing, online payment and online monitoring).

#### **4.6 Regression Analysis**

In statistical modelling, regression analysis is a statistical process for estimating the relationship among variables. It includes many techniques for modelling and analyzing several variables when the focus is on the relationship between a dependent variable and one or more independent variables (Marshalls, C, 2012). Using SPSS Version 25 the regression analysis given below was projected from the research

$$Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \pi$$

**Table 4.10 ANOVA<sup>a</sup>**

<b>Model</b>		<b>Sum of Squares</b>	<b>Df</b>	<b>Mean Square</b>	<b>F</b>	<b>Sig.</b>
1	Regression	89.355	3	29.785	4.8080	.00 <sup>b</sup>
	Residual	272.562	44	6.195		
	Total	361.917	47			

a. Dependent Variable: Revenue Collection

b. Predictors: (Constant), Online filing, Online Payment, Online monitoring

#### 4.7 Regression Coefficient

This is an extension of simple linear regression. It is used to predict the value of a variable based on the value of two or more variables. The variable to predict is called the dependent variables or criterion variable

**Table 4.11 Coefficients**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	67.677	4.679		1.641	0.012
	Online Filing	.004	.140	.004	0.290	0.001
	Online Payment	.119	.191	.111	0.624	0.013
	Online Monitoring	.752	.213	.545	3.524	0.003

a. Dependent Variable: VAT Revenue Collection

The model summary and ANOVA table reveal that the regression model had predictive power on VAT revenue collection ( $R=.497$ ,  $p<.05$ ) and explained 49.7% of the variability in VAT revenue collection. The coefficients indicate that online monitoring had the highest explanatory power on VAT revenue collection ( $B=.752$ ,  $p<.05$ ), followed by online payment ( $B=.119$ ,  $p<.05$ ) and lastly, online filing ( $B=.004$ ,  $p<.05$ ). The fitted regression model from the research findings was presented as follows.

VAT Revenue Collection =  $67.677 + 0.004 x$  Online Filing +  $0.119 x$  Online Payment +  $0.484 x$  Online Monitoring. In this regard the research findings and the regression analysis show a connection between the variable involved in the study. This study has therefore proven that iTax system has a significant impact on VAT revenue collection in Machakos station

$$Y=67.677 + 0.004 x_1 + 0.119 x_2 + 0.752 x_3$$

Where,

Y= Dependent variable (VAT Revenue Collection)

$x_1$  = Online filing

$x_2$  = Online Payment

$x_3$  = Online monitoring

## **CHAPTER FIVE: SUMMARY CONCLUSIONS AND RECOMMENDATIONS**

### **5.1 Introduction**

This chapter summarizes the findings of the study done with specific reference to the objectives and research questions of the study used as units of analysis. Data were interpreted and the results of the findings were correlated with both empirical and theoretical literature available. The conclusion relates directly to the specific objectives and research question. The recommendations were deduced from conclusions and discussion of the findings.

### **5.2 Summary of findings**

The research findings showed that there was a significant impact of iTax system on VAT revenue collection in Machakos station. Most of the respondents agreed to the fact that since the introduction of iTax system they have been able to file VAT returns on time, pay on time and also monitor various VAT online transaction through iTax system. An interview session carried out to KRA DTD officers in Machakos station revealed that the iTax system has indeed increased VAT revenue collection. The staff are able to monitor those who supplied taxable products and services. This is now possible on iTax system since the staff can now generate inconsistency reports through the use of iTax system. Correlations analysis shows that online filing and payment had a positive correlation on VAT revenue collection. Online monitoring also had a positive correlation on VAT revenue collection.

#### **5.2.1 Online filing and VAT revenue collections**

The study results showed that there was a significant contribution of online filing on VAT revenue collection in Machakos station. In all the five questions in table 4.4. above the findings revealed that respondents agreed with all the question except the question which asked about whether filing VAT returns using iTax had encouraged voluntary compliance among taxpayer's respondents somewhat disagreed with the statement.

This implies that though iTax system has enhanced revenue collection in Machakos station, voluntary compliance and payment is not directly attributed to this. There are other factors such as revamping tax payer education, sending constant reminder of due date payment which can significantly improve voluntary filing of VAT returns

These findings resonate well with a study done by Odongo (2016) that confirmed that electronic tax filing enhances better decision making. A number of taxpayers appreciated the advantages accruing to electronic tax filing such as accuracy, real-time ledger update while noting the slow processing speed around deadlines. The findings from the research study confirmed that electronic tax filing significantly improves tax compliance

### **5.2.2 Online Payment and VAT revenue collection**

From the findings, iTax system has significantly improved the payment process with respondent strongly agreed with the facts that the iTax system has enhanced prompt VAT payments. Majority of respondent also alluded to the fact that in the iTax system, VAT Payment procedure is simple and has been made easier through the use of electronic payment systems. The study also revealed that there was a significant contribution of electronic tax payments on revenue collection. This implies that by embracing electronic tax payments KRA is able to accurately reconcile and validate taxes paid. Electronic tax payments of taxes have improved taxpayer's tax accountability, reduced loopholes for tax evasion and timely payment of taxes due. In this regard, online electronic payments have increased the VAT revenue collection. Correlation analysis also shows that online payment had a positive correlation to VAT revenue collection.

These findings are also supported by a study conducted by Okiro (2015) which found that the e-payment system significantly influenced revenue collection performance by the Nairobi City County Government positively, such that increased adoption of e-payment system increases revenue collection performance. The study further revealed that the revenue collection performance in Nairobi City County increased considerably after introduction of e-payment system in revenue collection

### **5.2.3 Online monitoring and VAT revenue collection**

Findings indicated that staff somewhat agreed with the fact that electronic tax system has enabled KRA staff to monitor taxpayer's filing and payment details and identify inconsistencies with a means score of 1.9103. The iTax system has enabled the KRA staff in compliance department to monitor tax payer ledger accounts and also detect and generate VAT report revealing any inconsistency whereby some taxpayers file nil return and they have transacted vatable goods and services. Others under declared, while the rest didn't even have VAT obligations. This necessitated the deactivation of the PINs of taxpayer's who were not filing and paying VAT as stipulated in the VAT Act 2013. The deactivated PINs can only be reactivated upon declaring the right amount of tax due, filing and making payments. Correlation analysis also shows that online monitoring had had a positive correlation on VAT revenue collection.

These findings also resonate well with A study done by Bett & Yudah (2017) which revealed that there was a significant contribution of online compliance and monitoring activities on revenue collection at KRA Rift Valley Region. This implies that efficient online compliance

and monitoring activities through iTax system has led to close monitoring of taxpayers through readily available data for trend analysis. In addition, online compliance and monitoring activities has led to easy flagging out of inconsistencies in data declared by taxpayers and enhanced voluntary compliance

#### **5.2.4 VAT Revenue collection**

Finding shows that the respondents strongly agreed with fact the real time update of taxpayer ledger account has increased chances of accuracy and transparency with regards to VAT tax payment hence increasing revenue collections with a means score of 1.1135. Since implementation of iTax system and making VAT online filing and payment mandatory, there has been significant increase of VAT revenue collection. The system has enabled KRA DTD staff to identify the loop holes with regards to under declaration, underpayment and raising additional assessment. In the financial 2016/2017 VAT collection improved with a bigger margin compared to the other types of taxes. The findings indicate that 24.7% of revenue collection is attributed to combination of the three independent factors investigated in this study (Online filing, online payment and online monitoring).

In the KRA 2016-2017 financial year revenue report consumption taxes exhibited strong performance with VAT growing at 21.2%. VAT has exhibited strong growth for the fourth consecutive year with annual growth averaging 21.5% between 2012/13 and 2016/17. The strong performance is attributed to enhanced compliance measures which among others include the expansion of withholding VAT framework. Besides, key sectors including construction and telecommunications showed robust growth in VAT performance underlining continuing resilience of the Kenyan economy

### **5.3 Conclusions**

The study was conducted to investigate the impacts of iTax system on VAT revenue collection in KRA. The findings revealed that there was a significant impact of the of online filing, online payment and online monitoring on VAT revenue collection. Electronic tax payments of taxes have improved taxpayer's tax accountability, reduced loopholes for tax evasion and timely payment of taxes due. Similarly, the related literature also resonates with this fact that online systems have contributed significantly to improving revenue collections, both globally and locally. iTax system has increased the number of taxpayers filing their tax returns. Online submission of tax data has improved taxpayer's records management through iTax. Some of the suggestion made like improving iTax system speed and availability especially during the due dates, educating taxpayers on how to use the iTax system, sealing some of the loop holes

of under declaring sales and generally enhancing payment gateway will a long way in helping KRA to increase revenue collection

## **5.4 Policy Recommendations**

### **5.4.1 Recommendation on Online Taxpayer filing and VAT revenue collection**

From the research finding, it is evident that filing process is still cumbersome. The system should be made simpler for the users. Proper monitoring should be initiated and prompt communication should be done in case taxpayers are not filing on the right time or when they under declare their tax liability. Tax clinics should be carried out more often at their convenient time to improve tax payer's awareness. The iTax system should also be enhanced to ensure the system is working through out.

KRA should further simplify the VAT filing process to ensure more taxpayers are tax compliant. The auto populated(prefilled) VAT return should be introduced by linking taxpayers accounting systems and the iTax system by use of Application Programming Interfaces (APIs). This will require close collaboration between the tax administration and the affected taxpayers. Simplifying the iTax system will encourage voluntary compliance, while at the same time sending the message that efforts to improve and enhance the system are a priority

### **5.4.2 Recommendation on Online payment and VAT revenue collection**

Kenya Revenue Authority and treasury should develop a payment gateway that integrates iTax system and other payment systems such as Integrated Financial Management System (IFMIS) in order to improve tracking of tax payments and seal possible tax evasion loop holes.

KRA management should focus on taxpayer facilitation through a robust system of customer relationships management, efficient complaints resolution and ensuring that more resources are invested in user friendly online tax systems in order to realize long term benefit. KRA should launch a simpler method of payment for example using USSD code and a simpler mobile payment for VAT payments.

KRA in partnership with commercial banks and other players in the banking and financial sector should introduce the payment of taxes using debit or credit cards. Use of these cards will give taxpayers a faster, easier way to pay taxes. The necessary infrastructure must also be put into place, to support the online tax payment processes so as to minimize system down times especially during due dates when taxpayers are rushing to beat deadlines

### **5.4.3 Recommendation on Online Monitoring and VAT revenue collection**

The national Treasury together with KRA should also develop a data-intelligent strategy that can help with predictive modelling for investigating errors and fraud or predictive analytics for risk evaluation for filed VAT returns. Data from diversified sources will assist KRA in enforcing compliance and anti-fraud policies. This data intelligent strategy will also provide effective tools to understand non-compliant behaviors, spot high-risk areas, predict fraudulent taxpayers or businesses and create proactive measures to avoid or deter.

PIN suspension and stoppage measures for non-compliant taxpayers should also be anchored in the law and more specifically The Tax Procedures Act so as to avoid any chances of these measures being challenged in a court of law. This will in turn call for proper guidelines for PIN suspension, stoppage and reactivation. Inconsistency reports should also be generated regularly from the iTax system so that VAT nil and non-filers can easily be flagged out and followed up in order to increase compliance. The iTax system should also be programmed to send reminders in the form text and email messages to the taxpayers to remind them to file and pay their taxes on time

Tax laws and policies should further be simplified to enhance taxpayer compliance. This is because complexity in the law also leaves latitude for "interpretation". It is important that the legal provisions contain the tools to require taxpayers to correctly file returns and remit the proper amount. In keeping with the principles of self - assessment and making it as easy as possible for the taxpayer to comply, consolidating all the provisions into as few laws as possible will be the preferred approach. This removes the potential for conflicts and confusion that can develop when provisions are scattered across more than one law

### **5.5 Suggestions for Further Studies**

Similar studies should be done in other regions in the country and the results of the findings be compared for more accurate generalization. There is a need for a study to be conducted on effect of iTax on VAT revenue collections in other KRA stations and other tax obligations such as rental income and Turnover Tax. There is need for further research on the contribution of online filing, online payment and revenue collection. Finally, a further study is necessary to investigate the factors affecting effective implementation of online tax systems as a strategy for enhancing revenue collection in Kenya. There is need therefore to carry out a study on the challenges experienced with the use of iTax system in order to overcome and improve the system as a whole with a view of enhancing even further the delivery of services by the revenue authority

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## APPENDIX I: QUESTIONNAIRE

### PART A: General Information

1. Please indicate the position of respondent in the Authority  
 Officer       Supervisor    Assistant Manager    Manager  
 Other (Please specify).....
  
2. How long have you worked in KRA?  
 Less than a year    1-5 years    6-10 years    11-15 years    16-20 years    More than 20 years
  
3. What is the name of your work section or department?  
 Service Centre    Compliance    Taxpayer Services    Debt    Others (Please specify).....
  
4. How frequently do you assist tax payers to use the KRA electronic Tax Services?  
 Very Frequently    Frequently    Occasionally    Rarely

### PART B: Online Filing

5. Please indicate your level of agreement with the following statements regarding the Online tax return Filing process on a scale of 1 -4 where 1-Strongly Agree, 2 Somewhat Agree, 3-Somewhat Disagree, and 4-Strongly Disagree

Statements	1	2	3	4
Filing of VAT return is simple and easy				
Filing of VAT return takes shorter time				
Filing VAT using iTax system has reduced the number of taxpayers visiting the KRA premises to be assisted in filing VAT return				
Filing VAT using iTax system has enabled KRA to identify VAT defaulters and enforce payment measures				
Filing VAT using iTax has encouraged voluntary compliance among tax payers				

6. What recommendations would you suggest to improve filing process to enhance VAT revenue collection?

.....  
 .....

**PART C: Online Payments**

7. Please indicate your level of agreement with the following statements regarding the Online Tax Payment process on a scale of 1 - where 1-Strongly Agree, 2 Somewhat Agree, 3- Somewhat disagree, and 4-Strongly Disagree.

Statements	1	2	3	4
Online payment has enhanced prompt VAT payments.				
VAT Payment procedure is simple and has been made easier through the use of iTax				
Online VAT Payment is faster and saves time and this has increased chances of paying taxes				
Electronic VAT Payment has enabled tax payers to file and pay using their mobile phones				
Electronic generation of payment slip has reduced chances of evading payment of tax				

8. What recommendations would you suggest to improve payment process to enhance VAT revenue collection?

.....  
 .....  
 .....

**Part D: Online Monitoring**

Statements	1	2	3	4
iTax system has enabled KRA to authenticate taxpayer VAT returns and assess VAT tax liabilities				
iTax has enabled KRA to monitor taxpayer’s registration details and identify inconsistencies				
iTax has enabled KRA officers to identify VAT defaulters and enforce payment measures				

iTax has enabled KRA officers to raise additional assessment with regards to VAT payments				
iTax has enabled taxpayers to see various transactions and payments in the taxpayer's ledger account				

**Part E: Revenue collection**

<b>Statements</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
Real time update of taxpayer ledger account has increased chances of accuracy and transparency with regards to VAT tax payment hence increasing revenue collections.				
Since the introduction of mandatory filing, and Payment of VAT the VAT revenue collection has increased.				
Electronic tax system has encouraged voluntary compliance among tax payers hence increasing revenue collections				
With the use of iTax system, it is easy to detect under declaration of VAT tax or non-declaration of VAT tax liability among tax payers				
Electronic tax system has enabled KRA to detect unregistered tax payers who transact vatable goods without declaring the same				

9. Please indicate any other comments and suggestions that can improve the use of electronic tax services to improve VAT revenue collection?







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## APPENDIX III: TIME SCHEDULE

*Table 1: Time Schedule*

	Activity Description	Number of weeks													
		1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	<b>Research proposal</b>  July 2017-April 2018														
	<b>Data collection</b> (April 16 -20 <sup>th</sup> 2018)														
2	<b>Data analysis</b> (April 21 <sup>st</sup> -25 <sup>th</sup> 2018)														
3	<b>Data interpretation</b> (April 26 <sup>th</sup> to 30 <sup>th</sup> 2018)														
4	<b>Report writing</b> (1 <sup>st</sup> May to 20 <sup>th</sup> May 2018)														
5	<b>Compilation and presentation</b>														

## APPENDIX III: PROJECT BUDGET

Table 2: Project Budget

#	Item description	Amount
1	Laptop	50,000
2	Internet	10,000
3	Printing	5,000
4	Binding	6,000
5	Stationery	2,000
6	Miscellaneous	3,000
	<b>TOTAL</b>	<b>76,000</b>